

Abstract of the Disclosure

A communications network is provided with a self-healing topological architecture. Each node in the network detects continuously transmitted beacon packets that are propagated through the network at regular intervals by a root node. Upon failure to detect a new beacon packet after a predetermined time from a parent node, a network node determines a network isolation condition and searches for another node that is still actively connected in the network. Algorithms are provided for registering with and identifying active parent node candidates during a network failure so as to prevent the creation of network loops.